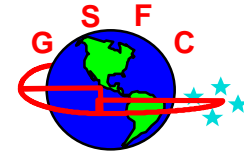
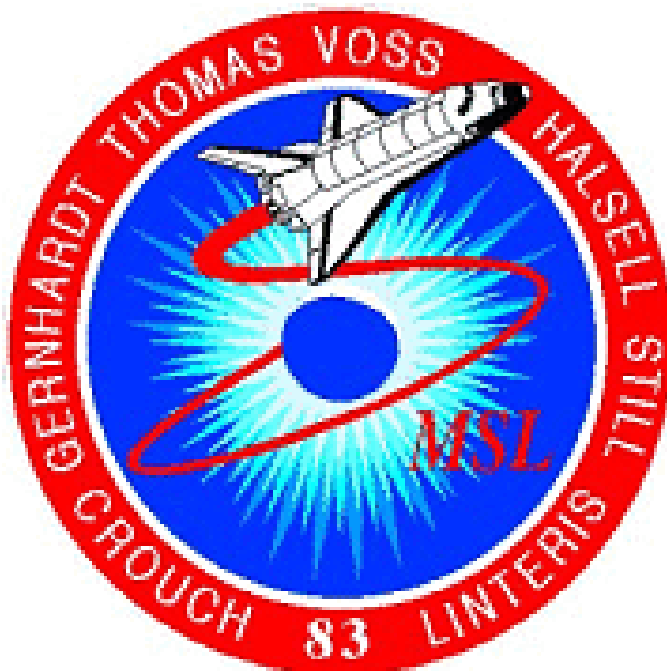


## MISSION OPERATIONS AND DATA SYSTEMS DIRECTORATE



### STS-83 MSL-01 FLIGHT READINESS REVIEW

### NETWORKS



### AGENDA

- INTEGRATED NETWORK
- TDRSS CONSTELLATION
- LAUNCH COVERAGE
- LANDING COVERAGE
- SIGNIFICANT CHANGES
- STS-82 IN-FLIGHT ANOMALY
- CONFIGURATION MANAGEMENT
- READINESS CERTIFICATION

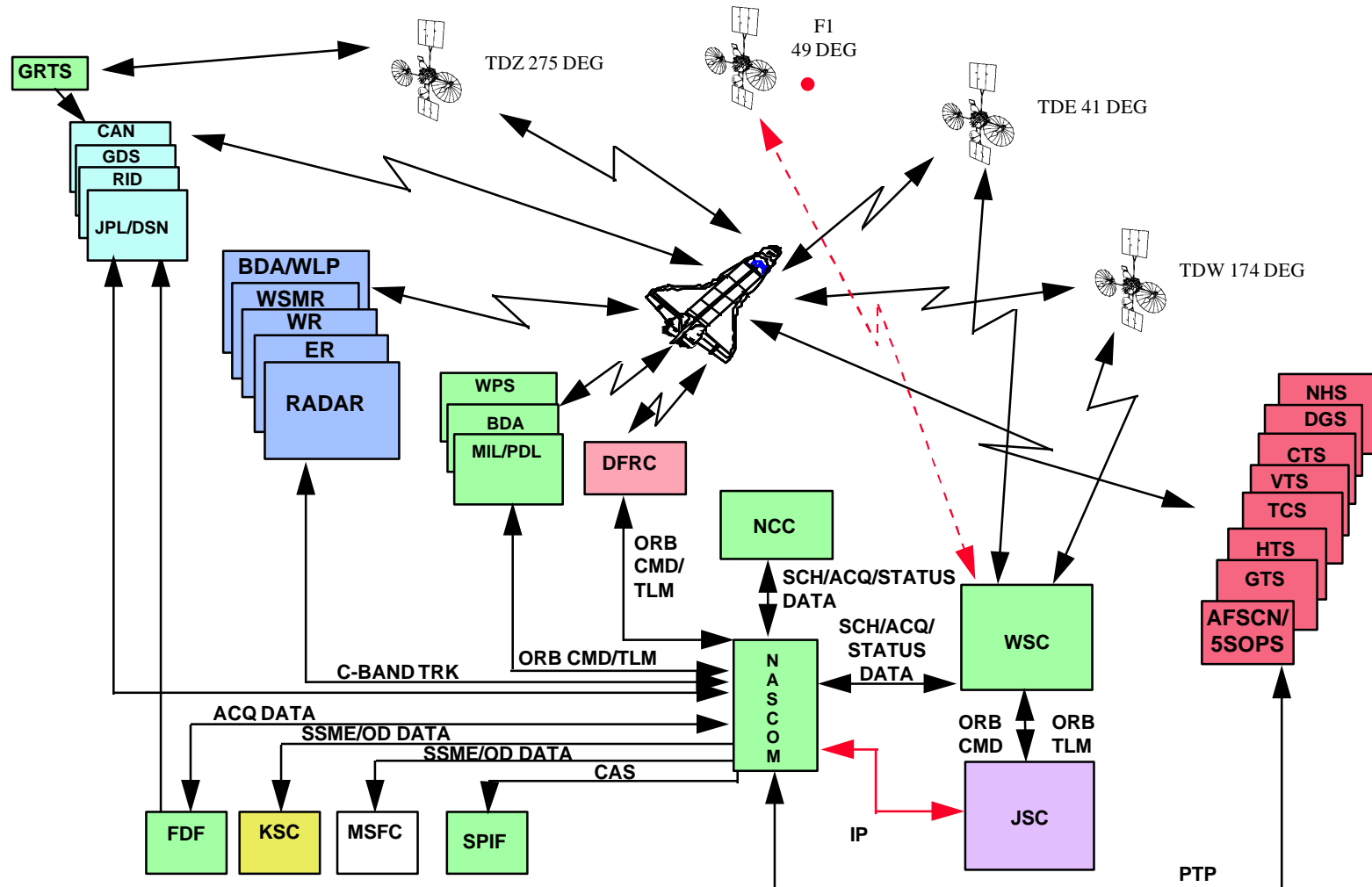
GARY A. MORSE  
GSFC/NETWORKS  
MARCH 1997

MO&DS  
DIRECTORATE

CODE 500

STS-83 MSL-01  
NETWORKS

## STS-83 INTEGRATED NETWORK



● BACKUP FOR ASCENT SUPPORT

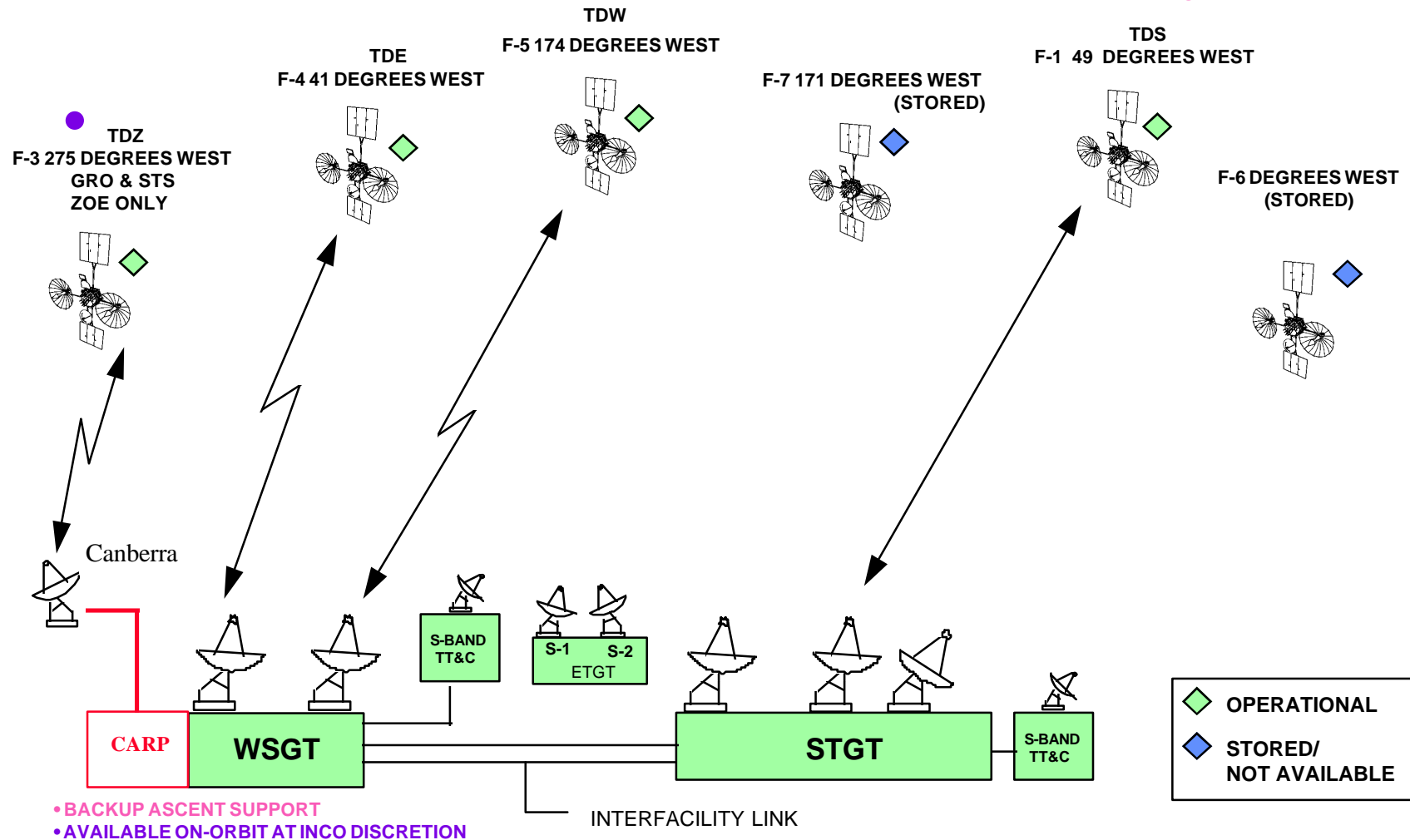
**MO&DS  
DIRECTORATE**

**CODE 500**

# STS-83 MSL-01 NETWORKS



## TDRSS CONSTELLATION



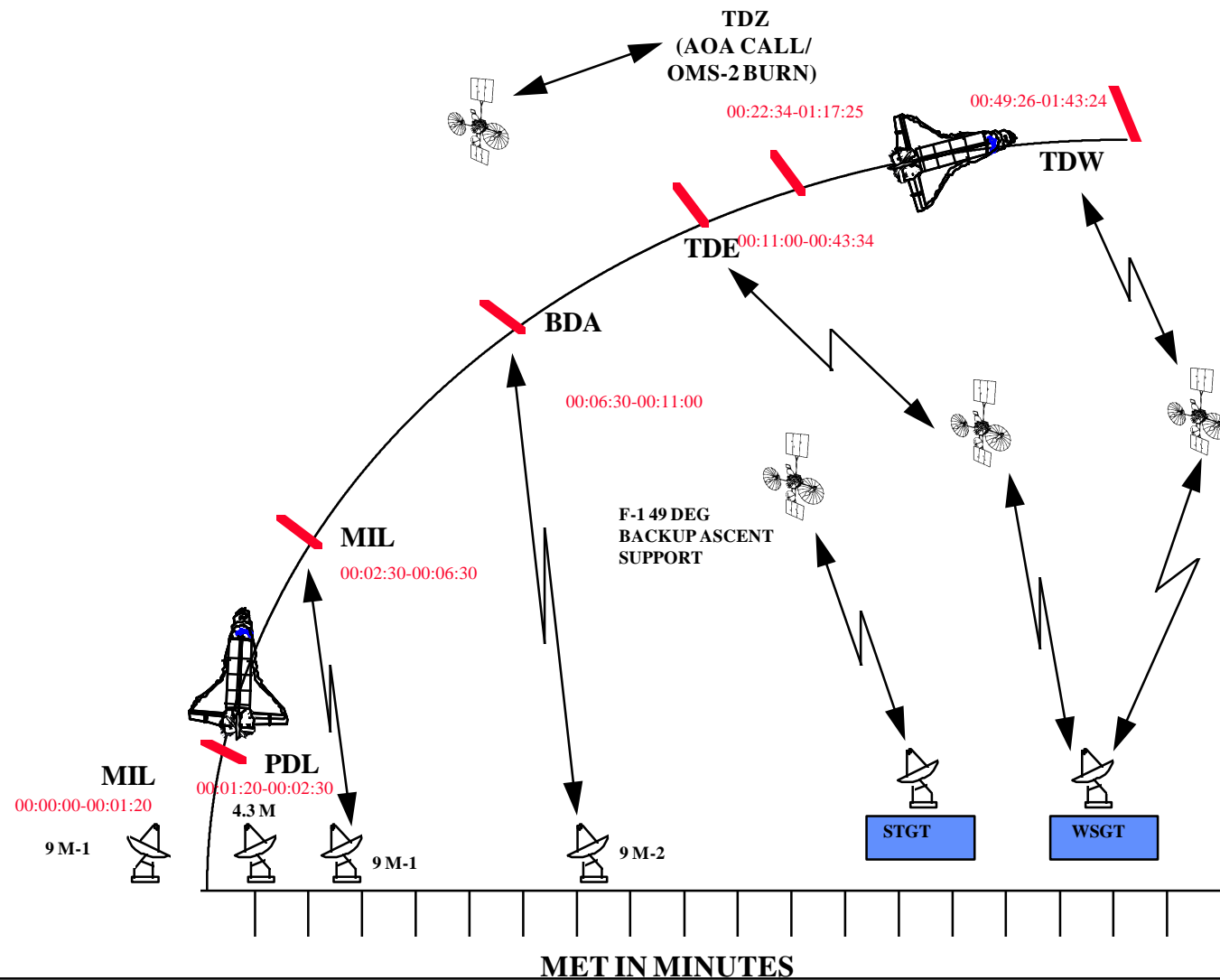
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**CODE 500**

# STS-83 MSL-01 NETWORKS



## LAUNCH COVERAGE



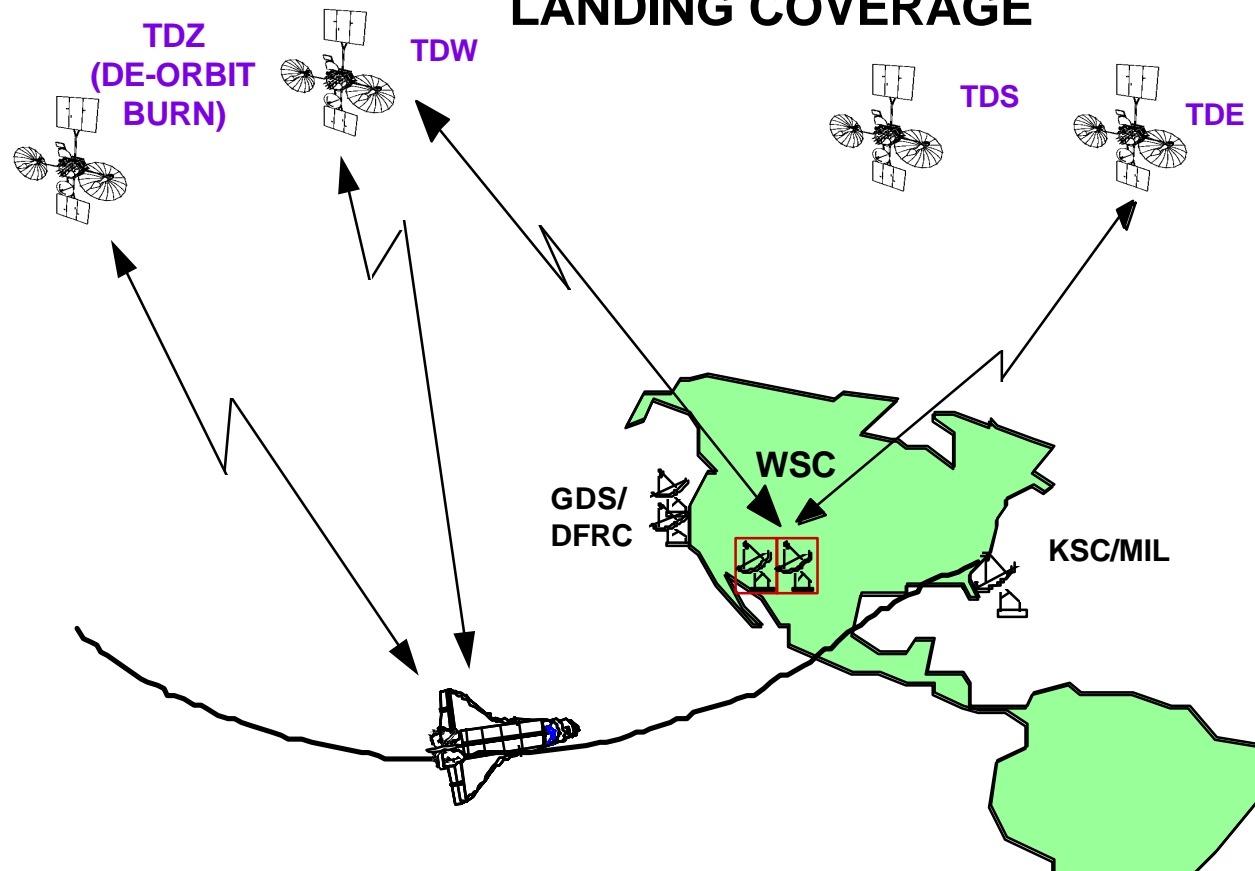
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**CODE 500**

## STS-83 MSL-01 NETWORKS



### LANDING COVERAGE



**TDZ** AVAILABLE FOR DE-ORBIT BURN COVERAGE  
**TDW** USED TO TRACK ORBITER UNTIL HANDOVER TO MIL  
**TDS** AVAILABLE DURING TERMINAL LANDING PHASE  
**TDE** AVAILABLE AT INCO DISCRETION

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NETWORKS**




## **SIGNIFICANT CHANGES**

- **WSC**
  - **SOFTWARE -**
    - **97001A - MARCH 5 - 3 DR's (WORKSTATION SECURITY, CANNED SHO EDITOR)**
    - **97001B - FEBRUARY 26 - 9 DR's (CARP PROJECT)**
    - **97001C - MARCH 19 - 1 DR (DIS FOR EDOS SUPPORT)**

**MO&DS  
DIRECTORATE****CODE 500****STS-83 MSL-01  
NETWORKS****SIGNIFICANT CHANGES (CONT)**

- **DRYDEN**
  - **AERONAUTICAL TEST FACILITY-1 UPGRADE COMPLETED**
    - **NEW S-BAND UPLINK CAPABILITY**
    - **TARGET OF OPPORTUNITY PASSES MAY BE SCHEDULED DURING STS-83 TO VERIFY SYSTEM CONFIGURATION**
- **5 SOPS/AFSCN**
  - **SUNNYVALE/JSC DIRECT MDM INTERFACE REMOVED**
- **C-BAND RADARS**
  - **KMLC/KMRC DOWN FOR SITE VISITATION MARCH 23-MAY 3, 1997**

<b>MO&amp;DS DIRECTORATE</b>	<b>STS-83 MSL-01 NETWORKS</b>	
<b>CODE 500</b>		

## **SIGNIFICANT CHANGES (CONT)**

- **NASA INTEGRATED SUPPORT NETWORK (NISN/NASCOM)**
  - **SATELLITE COMMUNICATIONS LINK TRANSITION (DOMSAT)**
    - **GE-2 REPLACED THE AGING SPACENET-2**
      - **ALLOWS ALASKA AND HAWAII ACCESS TO NASA TV**
  - **NASCOM CONTROL AND STATUS SYSTEM (CSS) HAS BEEN DEACTIVATED**
    - **FULL PERIOD MDM INTERFACES ACTIVATED GSFC/JSC**
    - **ALTERNATE SCHEDULING INTERFACE IMPLEMENTED**
  - **THE FOLLOWING ELEMENTS WILL UTILIZE INTERNET PROTOCOL (IP) FOR STS-83**
    - **JSC**
    - **GSFC/NCC**
    - **GSFC/FDF**

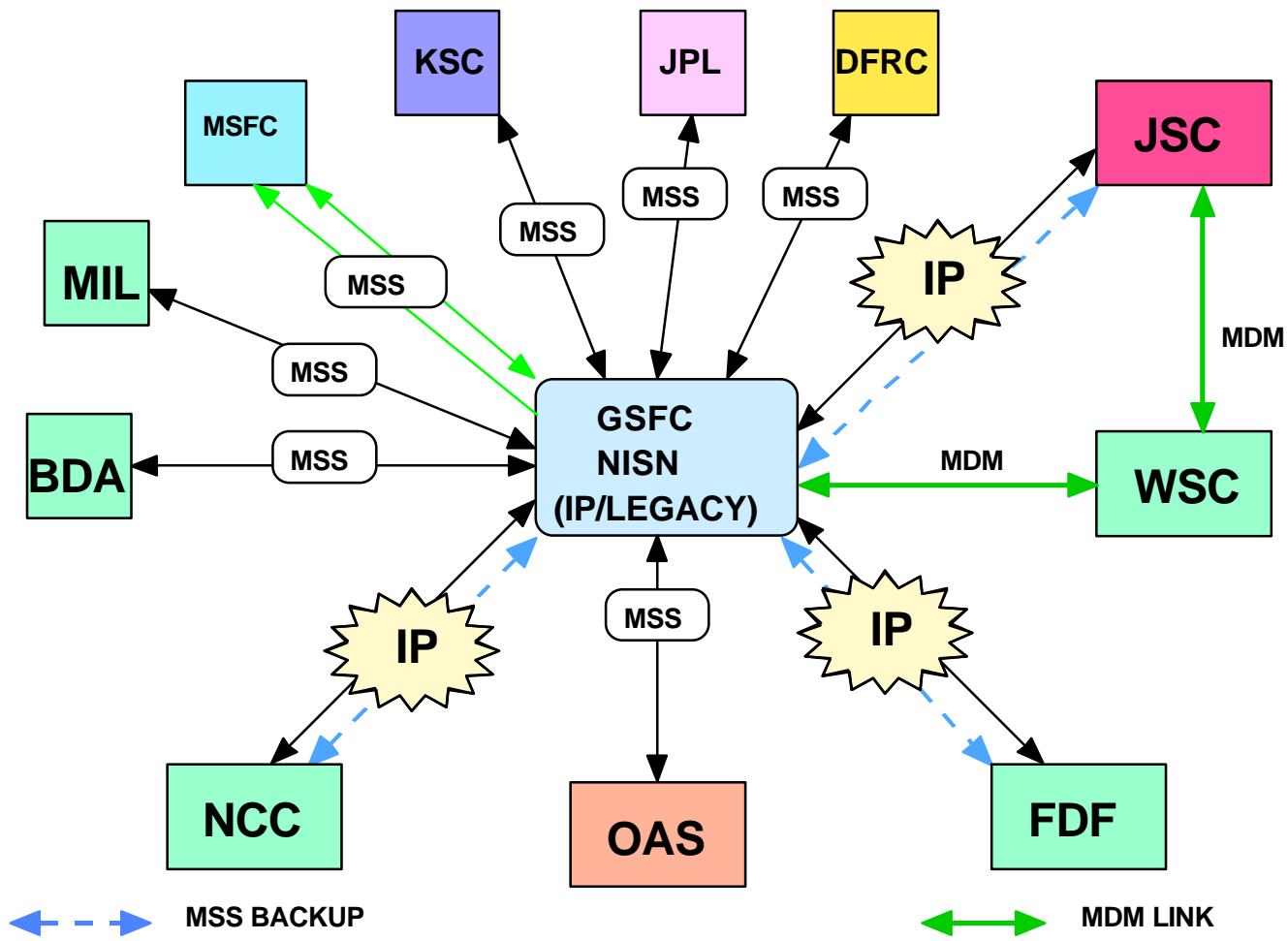



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STS-83 MSL-01  
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## STS-83 COMMUNICATIONS INTERFACES



<b>MO&amp;DS DIRECTORATE</b>	<b>STS-83 MSL-01 NETWORKS</b>	
<b>CODE 500</b>		

## **STS-82 IN-FLIGHT ANOMALY TDZ/OMS-2**

- **IN-FLIGHT ANOMALY STDN-01**
  - **AN OPERATOR ERROR PROMPTED A VECTOR PROCESSING ANOMALY IN THE GRO REMOTE TERMINAL SYSTEM (GRTS) SOFTWARE AT WSC**
    - **13 MINUTE LOSS OF FORWARD AND RETURN DATA DURING THE SCHEDULED TDZ COVERAGE OF THE OMS-2 BURN**
  - **AT THE STS/TDZ EVENT START TIME THE SA ANTENNA SLEWED TO A FIXED POINT AND REMAINED IN THAT POSITION FOR THE DURATION OF THE EVENT. DELOGS REVEALED THAT THE SYSTEM USED A PREVIOUSLY PROCESSED TYPE 8 STATIONARY VECTOR TO SUPPORT THE EVENT VICE AN ON-ORBIT TYPE 1 VECTOR.**
    - **THE ON-ORBIT TYPE 1 VECTOR HAD AN EPOCH TIME GREATER THAN 24 MINUTES INTO THE FUTURE AT THE TIME IT WAS PROPAGATED**
    - **THE SOFTWARE PROCESS INCORRECTLY IGNORED THE ON-ORBIT TYPE 1 VECTOR DUE TO THE PREVIOUSLY PROCESSED TYPE 8 VECTOR RESIDENT ON THE SAME WORKSTATION**
    - **THE TYPE 8 VECTOR SENT BY THE NCC, PRE-LAUNCH, WAS NOT REQUIRED AND SHOULD NOT HAVE BEEN TRANSMITTED TO WSC.**

**MO&DS  
DIRECTORATE****CODE 500****STS-83 MSL-01  
NETWORKS****STS-82 IN-FLIGHT ANOMALY  
TDZ/OMS-2 (CONT)**

- **OPERATIONAL WORKAROUND**
  - **UPDATED LOCAL OPERATIONS PROCEDURES AT WSC AND NCC TO CLARIFY ON-ORBIT TDZ VECTOR PROCESSING MISSION SUPPORT REQUIREMENTS**
- **CORRECTIVE ACTION**
  - **WSC ALERT NOTICE 97019 GENERATED FOR OPERATORS**
  - **WORKSTATION ISOLATION PROCEDURES DEVELOPED FOR WSC AND NCC**
  - **GRTS/TDZ SUPPORT IS TO BE TRANSITIONED TO A NEW VAX SYSTEM WHICH IS PART OF THE CANBERRA ADPE REPLACEMENT PROJECT (CARP) BEING RE-LOCATED TO WSGT FROM ETGT PRIOR TO STS-83. ETGT WILL BE DEACTIVATED FOR GRTS/TDZ SUPPORT. CARP WILL REMAIN IN PLACE UNTIL THE GUAM REMOTE GROUND TERMINAL PROJECT IS COMPLETE IN JUNE 1998.**

**MO&DS  
DIRECTORATE****CODE 500****STS-83 MSL-01  
NETWORKS**

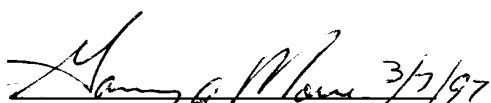
## **CONFIGURATION MANAGEMENT**

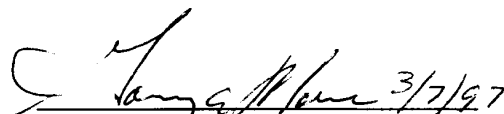
- **HARDWARE/SOFTWARE FREEZE**
  - **INTEGRATED NETWORKS FREEZE WILL BE IMPOSED AT LAUNCH MINUS 7 DAYS**
  - **EXEMPTIONS ARE APPROVED BY THE NETWORK DIRECTOR AND APPROPRIATE DIVISION CHIEFS**
- **CRITICAL PERIODS**
  - **ORBITER AND PAYLOAD CRITICAL PERIODS HAVE BEEN IDENTIFIED**
  - **MAINTENANCE AND TESTING RESTRICTIONS ARE IMPOSED ON SPACE AND GROUND NETWORK ELEMENTS DURING CRITICAL MISSION PERIODS**

# GODDARD SPACE FLIGHT CENTER

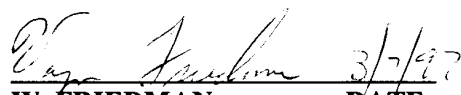
## CERTIFICATE OF MISSION OPERATIONS AND DATA SYSTEMS DIRECTORATE (MO&DSD) NETWORKS READINESS

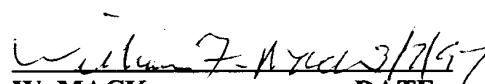
THIS IS TO CERTIFY THAT WITH SUCCESSFUL COMPLETION OF FLIGHT  
READINESS PREPARATIONS AND CLOSURE OF ASSOCIATED ACTION ITEMS, ALL  
MO&DSD ELEMENTS AND INTEGRATED NETWORKS ARE READY  
TO SUPPORT THE STS-83/MSL-1 MISSION.


  
G. A. MORSE      3/7/97  
SPACE SHUTTLE  
NETWORK DIRECTOR

  
W. WATSON      3/7/97  
ASSISTANT CHIEF  
NETWORKS DIVISION

  
R. STELMASZEK      3/7/97  
HUMAN SPACE FLIGHT  
MISSION SUPPORT MANAGER

  
W. FRIEDMAN      3/7/97  
NMOS PROGRAM  
MANAGER

  
W. MACK      3/7/97  
OFFICE OF FLIGHT  
ASSURANCE

  
JON Z. WALKER      3/7/97  
HEAD, INTEGRATION AND  
OPERATIONS MANAGEMENT